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Robert E. Malm

In re Application of:

GREGORY E. JOHNSTON
ARIE LEVINKRON

Serial Number: 09/059,077

Filing Date: 04/09/98

For: MOBILE SURVEILLANCE SYSTEM

Group Art Unit: 2712

Examiner: LUONG NGUYEN

Telephone: (703) 308-9297

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Transmitted herewith for filing is the appeal brief in triplicate in support of applicant's appeal to the Board of Patent Appeals and Interferences from the decision dated 09/27/99 of the examiner finally rejecting claims 1-25 of the application referenced above.

A check for the filing fee in the amount of \$150 for a small entity is attached hereto. The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 and 1.17 which may be required by this paper in excess of the above amount to Deposit Account No. 13-1239. (One additional copy of this Notice is enclosed herewith.)

Respectfully submitted,



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APPEAL BRIEF

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REAL PARTY IN INTEREST

The real parties in interest are GREGORY E. JOHNSTON, an individual residing at 1528 Montevel Place, San Jose, California, and ARIE LEVINKRON, an individual residing at 7320 Cirrus Way, West Hills, California.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1-25 are pending in the application.

Claims 1-25 are rejected.

Rejections of claims 1-25 are being appealed.

STATUS OF AMENDMENTS

No amendments were filed subsequent to final rejection of the claims by the examiner.

SUMMARY OF INVENTION

1. A mobile pan and tilt camera and display-control apparatus comprising:
 - a fully rotatable camera attached to a mount assembly that is mounted to a vehicle for capturing mobile images (specification: page 8, last paragraph, lines 1-2);
 - a display-control box having an image display screen and control buttons for controlling said camera and its movement, said display-control box being attached to an adjustable mount in said vehicle within an operator's view and reach (specification: page 8, last paragraph, lines 2-5);
 - an image capture box for receiving said captured images (specification: page 8, last paragraph, lines 5-7).
2. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said full rotation is achieved by mounting said camera to a tilting mechanism mounted on a panning mechanism (specification: page 13, last line, through page 14, line 16).
3. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said mount assembly incorporates a quick disconnect mechanism (specification: page 17, last paragraph through page 18, first paragraph).
4. A mobile pan and tilt camera and display-control apparatus as claimed in claim 3 further comprising a double locking mechanism on said mount assembly where one mechanism

is a security fastener (specification: page 18, first paragraph).

5. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 further comprising a water seal attached to said tilting mechanism (specification: page 19, lines 9-23).

6. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adapted to engage the roof-rack of a vehicle (specification: page 23, first and second complete paragraphs).

7. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adapted to engage a THULE® brand roof rack system (specification: page 16, last paragraph through page 17, first paragraph).

8. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a ball-plunger for self-locking said mount assembly (specification: page 18, first paragraph).

9. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a security fastener as a secondary and operator activated mechanical locking mechanism for said mount assembly (specification: page 18, first paragraph).

10. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 further comprising a singular support for both said panning mechanism and said tilting mechanism and separate drive gears and slip clutches for both said panning mechanism and said tilting mechanism (specification: page 24, last paragraph through page 26, first paragraph).

11. A mobile pan and tilt camera and display-control apparatus as claimed in claim 10 wherein said slip clutch comprises:

- a rotationally free gear;
- a support housing for gear;
- a friction pad co-aligned to said gear between said gear and said support housing;
- a wave washer to apply a pressure against said rotationally free gear and said support housing of sufficient force to enable a motor to drive said gear and said support housing to a point where said support housing stops rotating and said rotationally free gear breaks friction of said friction pad while said motor continues to drive without overheating (specification: page 24, last paragraph through page 26, first paragraph).

12. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a camera enclosure with bezel opening that is threaded to accept optical filters and is sealed with an o-ring for moisture blocking (specification: page 13, second paragraph, lines 7-8; page 19, lines 4-6).

13. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1

further comprising a Field of View (FOV) stabilized camera which provides an electronic compensation to overcome mechanical gear backlash and vibration (specification: page 22, first paragraph).

14. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera may be mounted at any angle with respect to gravity (specification: page 21, second paragraph).

15. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a bimetal heat sink for camera power supply temperature control (specification: page 18, second paragraph through page 19, lines 1-3).

16. A mobile pan and tilt camera and display-control apparatus as claimed in claim 12 wherein said camera enclosure is adapted to act as an additional heat sink (specification: page 18, last three lines).

17. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera enclosure incorporates a one-way moisture passage plug with flexible and sealed passage for wires (specification: page 19, lines 9-23).

18. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said display and control system have a set of control buttons positioned to be operated

with a single hand (specification: page 8, last paragraph; page 23, last three lines).

19. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said display and control system have a viewing angle adjustment lever positioned to be operated with said single hand (specification: page 12, second paragraph; page 23, fourth paragraph through page 24, first paragraph).

20. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising an optically clear or tinted sphere enclosing said camera (specification: page 22, second paragraph through page 23, first paragraph).

21. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly mates to a YAKIMA^R brand roof rack system (specification: page 23, third paragraph).

22. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles (specification: page 23, second paragraph).

23. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adaptable to a railroad locomotive attachment (specification: original claim 23).

24. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate for ship-board attachment (specification: original claim 24).

25. A process for viewing a scene with mobile pan or tilt camera of claim 1 comprising the steps of:

mounting said camera to a vehicle for capturing mobile images;
displaying said images on an image display screen;
controlling said camera position from within said vehicle;
capturing said images in an image capture box for storage and transmission of said captured mobile images; and
transmitting said captured mobile images by radio frequency transmission to a data storage server for further processing; and
providing said captured mobile images on internet server for official or consumer access (specification: page 9, first paragraph).

ISSUES

- I. WHETHER CLAIMS 1, 2, 5, 14, 18, 19, AND 24 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., AND LUCAS et al.
- II. WHETHER CLAIMS 3, 4, 8, AND 9 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND PADDOCK et al.
- III. WHETHER CLAIMS 6, 7, 21, AND 22 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND KLAPPER et al.
- IV. WHETHER CLAIM 10 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND KORMOS et al.
- V. WHETHER CLAIM 11 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., KORMOS et al., AND KURIAN.
- VI. WHETHER CLAIMS 12 AND 16 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., SERGEANT et al., and KENNEDY et al.
- VII. WHETHER CLAIM 13 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND McMAHON.
- VIII. WHETHER CLAIM 15 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND BAUMEISTER.
- IX. WHETHER CLAIM 17 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND BALKWILL et al.
- X. WHETHER CLAIM 20 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF

SCHNEE, SCHILLING et al., LUCAS et al., AND TOVI.

XI. WHETHER CLAIM 23 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND YANG.

XII. WHETHER CLAIM 25 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND CONWAY et al.

GROUPING OF CLAIMS

ISSUE I: Claims 1, 2, 14, 18, 20, 24, and 25 stand or fall together;

Claims 1, 5, and 19 stand or fall separately.

ISSUE II: Claims 3, 4, 8, and 9 stand or fall separately.

ISSUE III: Claims 6, 7, 21, and 22 stand or fall separately.

ISSUES IV-XII: Each issue concerns only one claim.

INTRODUCTION

Applicants' invention is a mobile surveillance system comprising (1) a pan-and-tilt video
5 camera attached to a mount assembly for capturing mobile images, (2) a display-control box
having an image display screen and control buttons for controlling the camera and its movement,
and (3) an image capture box for receiving the captured images.

The 25 claims pending in the application were all rejected by the examiner for
obviousness based on combinations of features from up to five references.

10 The patentable feature of claim 1 is a display-control box which comprises a display
device which displays the scene viewed by the camera and also incorporates control buttons for
controlling the camera and its movement.

One of the references (Schnee) cited by the examiner disclosed a shipboard surveillance
system wherein the camera controls and the display devices were shown as separate boxes in a
15 functional block diagram. The purpose of the functional block diagram was to show the flow of
signals among the various units making up the surveillance system. The statement is made in the
reference that "[t]he joystick controller [camera controls] is preferably physically adjacent
selector switches 44 and video monitor 58, all of which are preferably, though not necessarily,
located near the helm or on or near the bridge of the marine vessel."

20 The suggestion that the joystick controller should be physically adjacent to the video
monitor is not a suggestion that the joystick controller should be built into the video monitor box.
The rationale for the joystick controller being adjacent to the video monitor appears to be that the

video monitor box should be visually accessible to the helmsman while the joystick controller should be physically accessible. It does not follow that the joystick controller and the video monitor must be in the same box to achieve these goals. In fact, if the video monitor were mounted at a visually-accessible location above or below the windshield and in front of the 5 helmsman standing at the wheel, it could be awkward and perhaps impossible to operate the joystick controller if it were part of the video monitor.

Schnee suggests the desirability of controlling the camera from the helm of a marine vessel. However, it would be undesirable to constrain the mounting of the monitor in the cabin of the marine vessel so that controls incorporated into the monitor box would be within reach of 10 the helmsman. Why wouldn't a person skilled in the art mount the display box based on (1) mounting convenience and (2) visual accessibility by the helmsman? Why wouldn't a person skilled in the art provide a separate camera-controls box and mount the box based on (1) mounting convenience and (2) physical accessibility by the helmsman? What would be the point 15 of integrating the camera controls with the display and thereby possibly compromising the visual accessibility of the display and the physical accessibility of the camera controls?

Would not a person skilled in the art be motivated by Schnee's suggestion to mount the camera controls near the helm, independent of the location of the monitor, and readily accessible to the helmsman? Or why not build the "camera controls" into a remote unit (like a television remote control) that is completely portable and independent of the "display box"?

20 There appears to be no reasonable rationale for combining the camera controls and the display into the same box, and consequently there would be no motivation for a person skilled in the art to combine these functionally unrelated devices into the same box.

In the case of claims 3-13, 15-17, 19, and 21-23, the obviousness rejections by the examiner were based on erroneous conclusions that the patentable features were disclosed in the prior-art references. Since *prima facie* obviousness of a claimed invention can only be established if all of the claim limitations are taught or suggested by the prior art, the examiner 5 failed to establish *prima facie* obviousness of any of the claims identified above.

ARGUMENT

I. WHETHER CLAIMS 1, 2, 5, 14, 18, 19, AND 24 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF 5 SCHNEE, SCHILLING et al., AND LUCAS et al.

CLAIM 1

Claim 1 includes the limitation "a display-control box having an image display screen and 10 control buttons for controlling said camera and its movement" None of the references cited by the examiner disclose an integrated display-control box. In view of this result, the examiner argues that it would be obvious to combine either Schnee's "display box" 58, Schilling et al.'s "display box" 1, or Lucas et al.'s "display box" 12 and Schnee's "camera controls" 56 (neither Schilling et al. nor Lucas et al. disclose "camera controls") into a single box.

15 The issue brought forth by this argument is what would be the motivation that would drive a person skilled in the art to make such a combination:

20 "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. . . . The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP § 2142.

25 The examiner's rationale for combining the "display box" and the "camera controls" is that "[i]t would have been obvious to have an adjustable control/display area for easy access for the navigator or operator." 09/27/99 Office Action, page 9.

Schilling et al. does not envision using a camera with his "device for supporting objects so as to be rotatable about an axis of rotation" and is consequently of little help in providing motivation for integrating "camera controls" into a "display box".

Lucas et al.'s vehicular mounted surveillance system does not use a remotely-controlled 5 camera and consequently is also of little help in supplying motivation for integrating "camera controls" into a "display box".

Schnee describes a system based on a remotely-controlled camera and suggests that the "camera controls" be located adjacent to the "display box" but makes no suggestion that the "camera controls" should actually be incorporated into the "display box". Schnee, col. 3, lines 10 60-67. The basis for Schnee's suggestion appears to be the need for the operator of the system to be able to control the camera while at the same time observing the display. But it does not follow that the need for a visually-accessible display and physically-accessible camera controls translates into "camera controls" that are built into the "display box".

Schnee suggests the desirability of controlling the camera from the helm of a marine 15 vessel. However, it would be undesirable to constrain the mounting of the monitor in the cabin of the marine vessel so that controls incorporated into the monitor box would be within reach of the helmsman. Why wouldn't a person skilled in the art mount the display box based on (1) mounting convenience and (2) visual accessibility by the helmsman? Why wouldn't a person skilled in the art provide a separate camera-controls box and mount the box based on (1) 20 mounting convenience and (2) physical accessibility by the helmsman? What would be the point of integrating the camera controls with the display and thereby possibly compromising the visual accessibility of the display and the physical accessibility of the camera controls?

Would not a person skilled in the art be motivated by Schnee's suggestion to mount the camera controls near the helm, independent of the location of the monitor, and readily accessible to the helmsman? Or why not build the "camera controls" into a remote unit (like a television remote control) that is completely portable and independent of the "display box"?

5 The examiner argues (09/27/99 Office Action, page 3) that motivation can be found in Lucas et al. (col. 2, lines 5-15) but the passage cited says nothing about incorporating camera controls in the display box.

The examiner also argues that it follows from *In re Larson*, 144 USPQ 347 (CCPA 1965) that a display box incorporating camera controls is obvious. 09/27/99 Office Action, page 2.

10 In *In re Larson* the court ruled that a brake drum integral with a clamping means was obvious in view of prior art which disclosed a brake disc and clamp rigidly secured together as a single unit. The examiner is depending on MPEP § 2144.04 which describes legal precedent as a source of motivation in establishing obviousness. It is made clear in MPEP § 2144.04 that this approach to demonstrating motivation is only possible "if the facts in a prior legal decision are 15 sufficiently similar to those in an application under examination." And the facts of *In re Larson* are not at all similar to those of the present case. *In re Larson* has to do with two functionally-related parts that are rigidly secured together in the prior art and claimed as an integrated unit in the application. In the present case, a display box incorporating camera controls is claimed and there is no prior art that discloses such a combination. The issue in *In re Larson* was whether 20 two things rigidly secured together is essentially the same as an integration of the two things. The issue in the present case is whether the integration process in itself can be considered

obvious. What is obvious is that *In re Larson* provides no legal precedent for concluding obviousness in the present case.

The examiner's argument that "[i]t would have been obvious to have an adjustable control/display area for easy access for the navigator or operator" appears to be based on 5 applicant's disclosure. But finding motivation in applicant's specification is improper:

"The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP § 2142.

10 The examiner's conclusion that it would have been obvious to have an adjustable control/display area for easy access for the navigator or operator is logically unsupportable. It does not follow that incorporating "camera controls" in the "display box" results in easy access to the "camera controls" for the navigator or operator. "Easy access" to the "camera controls" is a 15 function only of the relative locations of the "camera controls" and the navigator or operator.

A person skilled in the art would find no suggestion or motivation to combine "camera controls" and "display" in a single box, and consequently, a *prima facie* case of obviousness has not been established for claim 1.

20 CLAIM 5

The examiner cites Schnee (col. 2, line 66 through col. 3, line 4) as disclosing applicant's "water seal attached to said tilting mechanism." 09/27/99 Office Action, page 8. The cited passage refers to a "motor housing . . . sealed for protection against water." However, the motor 25 housing 18 is separate and distinct from the "tilting mechanism" which causes the camera

housing 12 to rotate about axis 16. Schnee, Fig. 1, col. 2, lines 55-58.

When the above argument was presented to the examiner prior to his final office action, the examiner responded that Schnee discloses a water seal attached to the tilting mechanism but the details of his argument show he was confusing "tilting mechanism" with "tilting motor".

5 09/27/99 Office Action, pages 3-4. Schnee's "tilting motors" are contained in a motor housing 18 which is sealed for protection against water. The shaft of Schnee's tilting mechanism coincides with axis 16 in Schnee's Fig. 1. There is no way one can argue that the water seal that seals the motor housing 18 is "a water seal attached to said tilting mechanism".

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

15 Since none of the cited references disclose applicants' "water seal attached to said tilting mechanism.", *prima facie* obviousness of claim 5 has not been established.

CLAIM 19

20 The examiner mistakenly concluded that the "viewing angle adjustment lever" referred to in claim 19 controlled the orientation of the camera. 9/27/99 Office Action, page 4. It does not. It controls the orientation of the "display-control box" as can be verified by consulting applicants' specification, page 12, second paragraph.

25 Neither Schnee, Schilling et al., nor Lucas et al. disclose a display and control system having a viewing angle adjustment lever for controlling the orientation of the display-control box.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the cited references disclose applicants' "viewing angle adjustment lever", *prima facie* obviousness of claim 19 is not established.

II. WHETHER CLAIMS 3, 4, 8, AND 9 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND PADDOCK et al.

CLAIM 3

Applicants' claim 3 claims "a mobile pan and tilt camera and display-control apparatus as claimed in claim 1 **wherein said mount assembly incorporates a quick disconnect mechanism.**"

The examiner states (09/27/99 Office Action, p. 9) that "Schnee and Schilling do not disclose a mount assembly with a quick disconnect or any kind of locking mechanism."

Lucas et al. discloses a mount assembly that is glued to the windshield of an automobile. Lucas et al., col. 4, lines 17-20. Attachment by "glueing" is not a "quick disconnect mechanism".

Paddock et al. discloses a quick disconnect mechanism for connecting a camera by itself to a platform. Paddock et al., col. 4, line 58 through col. 5, line 40. Applicants' claim calls for a camera attached to a mount assembly that provides the pan-and-tilt capability wherein the mount

assembly incorporates the quick disconnect mechanism. Thus, Paddock et al. does not disclose applicants' claim 3 limitation.

Prima facie obviousness is established only if all of the claim limitations are taught by the prior art:

5 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

10

Since none of the cited references disclose applicants' "mount assembly [that] incorporates a quick disconnect mechanism , *prima facie* obviousness of the claim-4 invention has not been established.

15

CLAIM 4

The examiner cites Paddock et al. as disclosing applicants' claim-4 limitation "a mobile pan and tilt camera and display-control apparatus as claimed in claim 3 **further comprising a double locking mechanism on said mount assembly** where one mechanism is a security fastener." However, Paddock et al. states:

20

"The quick release mechanism, when it is open, allows the mounting plate to be mounted to the adjustable platform. When it is closed, the quick release mechanism **loosely and slidably secures** the mounting plate to the adjustable platform. When the locking screw is tightened, the quick release mechanism **fixedly secures** the mounting plate to the adjustable platform." Paddock et al., col. 8, lines 28-35 (emphasis added).

25

A quick release mechanism that "loosely and slidably secures" the mounting plate to the adjustable platform is not a locking device such as the locking screw which "fixedly secures" the mounting plate to the adjustable platform

5 The locking screw is the only means provided for locking the mounting plate to the platform.

The examiner incorrectly states that Paddock et al.'s "ball-plunger 80" is a locking device. 09/27/99 Office Action, p.4 and pp. 9-10. Paddock et al. states quite clearly that:

10 "The ball-plunger 80 . . . engages one of the notches 81 . . . of the cam lever 73 . . . in order to provide a stop therefor." Paddock et al., col. 7, lines 37-41. The ball-plunger resiliently holds the cam lever 73 in either of two positions. It has nothing to do with locking the mounting plate to the adjustable platform. Only the locking screw 77 is able to do this. Paddock et al., col. 8, lines 28-35.

15 *Prima facie* obviousness is established only if all of the claim limitations are taught by the prior art:

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the cited references disclose applicants' "double locking mechanism", *prima facie* obviousness of the claim-4 invention has not been established.

CLAIM 8

The examiner cites Paddock et al.'s ball-plunger 80 as disclosing applicants' "ball-plunger for self-locking said mount assembly" 09/27/99 Office Action, page 5. However, 5 Paddock et al. states:

"The ball-plunger 80 of the screw 79 engages one of the notches 81, . . . , of the cam lever 73 when the cam lever 73 is in its closed position . . . in order to provide a stop therefor. When the cam lever 73 is in its open position . . . the ball-plunger 80 of the screw 79 engages the other notch 81, . . . , of the cam lever 73 in order to provide a 10 stop therefor." Paddock et al., col. 7, lines 37-45.

Providing a "stop" is not the same as performing a "self-locking" function. Paddock et al. clearly states that when the cam lever 73 is acting as a stop for the cam lever 73 in the closed position (Paddock et al., col. 7, lines 37-41), "the quick release mechanism loosely and slidably 15 secures the mounting plate to the adjustable platform." Paddock et al., col. 8, lines 31-33. The Paddock et al. "ball-plunger" does not function as a locking mechanism that "fixedly secures the mounting plate to the adjustable platform". Only the locking screw 77 is able to do this. Paddock et al., col. 8, lines 28-35.

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

25

Since none of the cited references disclose a "ball-plunger for self-locking said mounting assembly", *prima facie* obviousness of the claim-8 invention has not been established.

CLAIM 9

5 Claim-9 specifies "**a security fastener as a secondary and operator activated mechanical locking mechanism.**" Paddock et al.'s "locking screw 77" is the one and only security fastener (see discussion under *CLAIM 8* above). Since Paddock et al. does not disclose a double locking mechanism (see claim 4 discussion above), Paddock et al. also does not disclose 10 applicants' "security fastener as a secondary and operator activated mechanical locking mechanism."

15 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

20 Since none of the references Schnee, Schilling et al., Lucas et al. and Paddock et al. disclose "a security fastener as a secondary and operator activated mechanical locking mechanism.", *prima facie* obviousness of the claim-9 invention has not been established.

III. WHETHER CLAIMS 6, 7, 21, AND 22 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND KLAPPER et al.

5

CLAIM 6

Applicants in claim 6 claim "a mobile pan and tilt camera and display-control apparatus as claimed in claim 2 **wherein said mount assembly is adapted to engage the roof-rack of a vehicle.**

10 The question that must be answered before considering the prior art is the meaning of the term "roof-rack of a vehicle".

15 "A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art." MPEP § 2173.01.

The dictionary definition of "rack" is "a framework on which articles or materials are arranged or deposited." *The Random House College Dictionary, Revised Edition*, Random House, Inc., New York, N.Y. (1988). By standard grammatical construction, a "roof-rack" is a 20 rack located on a roof. A "roof-rack of a vehicle" is a rack that attaches to the roof of a vehicle and on which can be placed a variety of different articles or materials. Well-known engineering principles and cost efficiency dictate the structure of a roof rack to be based on two spaced-apart members that can be fastened to a vehicle roof and to which different articles (such as luggage carriers, bicycles, etc.) can be attached. Such vehicle roof racks are a standard commodity 25 exemplified by Thule^R-brand and Yakima^R-brand roof racks. Specification, pp. 16-17, 23.

The claim language "said mount assembly is **adapted to engage the roof-rack of a**

vehicle" suggests that the mount assembly is designed to mount on a more-or-less general-purpose roof-rack without change to the roof-rack. The expression "adapted to" is typically used in claims to express the idea that the design of an invention is adjusted to match an existing design of some other object. *See In re Venezia*, 189 USPQ 149 (CCPA 1976).

5 The examiner cites Klapper et al. as disclosing applicants' "mount assembly . . . adapted to engage a roof-rack of a vehicle". But that is not what Klapper et al. discloses. Klapper et al. discloses custom "mounting hardware 1012" that can secure a camera to the roof of a vehicle—not to the roof-rack of the vehicle. Klapper et al., col. 3, lines 48-53; col. 4, lines 1-4. Klapper et al.'s "mounting hardware 1012" consists of a single member that is incapable of serving as a 10 "roof-rack"—"a framework on which articles or materials are arranged or deposited." Klapper et al.'s "mounting hardware 1012" is custom-designed to mate with Klapper et al.'s "pointing mechanism 500". Klapper et al.'s "pointing mechanism 500" is not adapted to engage the traditional vehicle roof-rack.

15 Klapper et al. does not disclose a camera having a mount assembly that is adapted to engage the roof-rack of a vehicle.

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the cited references disclose a "mount assembly adapted to engage a roof-rack of a vehicle", *prima facie* obviousness has not been established for claim 6.

CLAIM 7

Applicants' claim 7 claims "a mobile pan and tilt camera and display-control apparatus as claimed in claim 2 **wherein said mount assembly is adapted to engage a THULE® brand roof rack system.**"

5 Klapper et al.'s "mounting hardware 1012" is not a "roof-rack" and Klapper et al. does not disclose a camera having a mount assembly that is adapted to engage the roof-rack of a vehicle. See discussion above under the heading **CLAIM 6**. More specifically, Klapper et al. does not disclose a camera having a mount assembly that is adapted to engage "a THULE® brand roof rack system." Thus, Klapper et al. does not disclose the limitations of claims 7.

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 15 1970)." MPEP § 2143.03.

Since none of the cited references disclose a "mount assembly . . . adapted to engage a THULE® brand roof rack system", *prima facie* obviousness has not been established for claim 7.

CLAIM 21

20 Applicants' claim 21 claims "a mobile pan and tilt camera and display-control apparatus as claimed in claim 2 **wherein said mount assembly mates to a YAKIMA® brand roof rack system.**"

Klapper et al.'s "mounting hardware 1012" is not a "roof-rack" and Klapper et al. does not

disclose a camera having a mount assembly that is adapted to engage the roof-rack of a vehicle. See discussion above under the heading **CLAIM 6**. More specifically, Klapper et al. does not disclose a camera having a mount assembly that mates to "a YAKIMA^R brand roof rack system." Thus, Klapper et al. does not disclose the limitations of claims 21.

5 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

10 Since none of the cited references disclose a "mount assembly [that] mates to "a YAKIMA^R brand roof rack system", *prima facie* obviousness has not been established for claim 21.

CLAIM 22

15 Applicants' claim 22 claims "a mobile pan and tilt camera and display-control apparatus as claimed in claim 2 **wherein said mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles.**"

Klapper et al.'s "mounting hardware 1012" (Klapper et al., col. 3, lines 48-53) is not an adapter plate to mate to a light bar used on an emergency or patrol guard vehicle. Thus, Klapper et al. does not disclose the limitations of claim 22.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of

that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the cited references disclose a "mount assembly [that] includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles", *prima facie* obviousness has 5 not been established for claim 22.

IV. WHETHER CLAIM 10 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., 10 AND KORMOS et al.

The examiner cites Kormos et al. as having disclosed applicants' claim-10 "singular support for both pan and tilt mechanisms." 09/27/99 Office Action, pages 6, 10-11. The adjective "singular" in the context of the specification means that both the pan mechanism and 15 the tilt mechanism are supported at only one end of the axis of rotation. Specification, page 13, 1st complete paragraph. This interpretation of "singular" is consistent with the dictionary definition and the applicants' use of the term in the specification. ".

"A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants 20 are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art." MPEP § 2173.01.

Kormos et al. does not disclose "singular support" for the tilt mechanism. Kormos et al. describes a floating tilt 508 with first and second trunnions 512 and 514 secured to opposite sides 25 of the night vision system 1. Kormos et al., col. 2, lines 56-60.

The examiner erroneously identifies Kormos et al.'s slip ring and brush assembly 536 as being slip clutches. 09/27/99 Office Action, pages 6, 10-11. A "slip ring and brush assembly" is not a "slip clutch", and Kormos et al. also does not disclose the slip clutches specified in claim 10.

5 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

10

Since none of the cited references disclose "singular support for both pan and tilt mechanisms" and "slip clutches", *prima facie* obviousness of the claim-10 invention has not been established.

15

V. WHETHER CLAIM 11 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., KORMOS et al., AND KURIAN.

20 The examiner's argument for the obviousness of applicants' claim-11 invention (09/27/99 Office Action, pages 6, 11) depends on Kormos et al. having disclosed a slip clutch in a camera pointing mechanism and Kurian having disclosed the slip clutch limitations appearing in claim 11. The argument fails because Kormos et al. does not disclose a slip clutch (see discussion under *CLAIM 10*).

Kormos et al. avoids the need for slip clutches by utilizing Hall effect sensors to provide an indication of the position of the tilt drive gear 522:

"The Hall effect output establishes the limits of travel at each extreme so that the tilt gimbal 502 can be disabled at angular extremes." Kormos et al., col. 3, lines 10-22.

5 Combining Kurian and Kormos et al. would require the substitution of Kurian's slip clutch for Kormos et al.'s Hall effect sensors and the tilt gimbal disabling mechanism. This substitution would change the principle of operation of the Kormos et al. invention and the teachings of Kurian and Kormos et al. would not be sufficient to render the claim-11 invention obvious:

10 "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d, 123 USPQ 349 (CCPA 1959)." MPEP § 2143.01.

15 Since the combination of Kurian and Kormos et al. would change the principle of operation of the Kormos et al. invention, *prima facie* obviousness of applicants' claim-11 invention is not established.

20 **VI. WHETHER CLAIMS 12 AND 16 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., SERGEANT et al., and KENNEDY et al.**

CLAIM 12

25 The examiner cites Kennedy et al. as disclosing applicants' "camera enclosure with bezel opening that is threaded to accept optical filters." 09/27/99 Office Action, page 6, 12. The passage cited by the examiner is:

"A 1.5 micrometer edge filter 34 along with a 0.7 neutral density optical filter 36 are placed in the lens." Kennedy et al., col. 5, lines 23-24.

5 Note that the passage describes placing the filter in the lens, not the camera enclosure 20. The passage does not say anything about a bezel opening threaded to accept optical filters. In short, Kennedy et al. does not disclose the claim-12 limitation quoted above.

10 The examiner cites Sergeant et al. as disclosing applicants' "o-ring" for sealing the optical filter in a bezel opening in the camera enclosure. But Sergeant et al.'s o-rings are used to seal the ends of the camera enclosure and have nothing to do with sealing an optical filter into an opening in the camera enclosure. Sergeant et al., Abstract. The combination of Kennedy et al. and Sergeant et al. results in a camera within a camera enclosure, the camera having an optical filter within the lens of the camera and the camera enclosure ends sealed with o-rings. Compare this combination with applicants' camera within a camera enclosure, the camera enclosure having a threaded bezel opening to accept an optical filter, the filter being sealed in the bezel opening with 15 an o-ring.

The combination proposed by the examiner is not the invention claimed by applicants in claim 12. If the combination of the prior art does not result in applicants' claimed invention, there can be no issue of obviousness.

CLAIM 16

The examiner states:

5 12.

"As for claim 16, Schnee, Schilling, and Lucas do not mention a camera housing acting as an additional heat sink. Sergeant also does not explicitly mention a heat sink. Instead, he uses an o-ring seal to protect the camera housing from the environment. However, Kennedy discloses this necessity in column 5, lines 13-15. 09/27/99 Office Action, page

The passage from Kennedy et al. cited by the examiner reads as follows:

10 "The cooling air enters at air connection 22 and passes through air line 24 to inside of housing 20 which surrounds the camera head and yoke assembly 10, and channels the air to lens 28." Kennedy et al., col. 5, lines 13-16.

This is not a disclosure of camera apparatus "wherein a camera enclosure acts as an additional heat sink." According to the Manual of Patent Examining Procedure, obviousness can be established only if each limitation of the claim is described by at least one of the prior-art 15 references:

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the prior art cited by the examiner disclose the limitation of claim 16, the examiner has not established a *prima facie* case of obviousness.

5 **VII. WHETHER CLAIM 13 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND McMAHON.**

10 The examiner cites McMahon as disclosing applicants' "Field-of-View (FOV) stabilized camera." McMahon discloses the use of a gyro-stabilized camera system. McMahon, col. 1, line 11. A gyro-stabilized camera system is not a field-of-view stabilized camera. A gyro-stabilized camera maintains a fixed perspective in an inertial frame of reference. Anthony Lawrence, *MODERN INERTIAL TECHNOLOGY, Navigation, Guidance, and Control*, 2nd Ed., p. 11, Springer-Verlag, New York, N.Y. (1998). A field-of-view stabilized camera controls the 15 orientation of the camera so that the field of view remains invariant. *See* User's Manual, Sony Model EV1330T Camera.

According to the Manual of Patent Examining Procedure, obviousness can be established only if each limitation of the claim is described by at least one of the prior-art references:

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the prior art cited by the examiner disclose the limitation of claim 13, the examiner has not established a *prima facie* case of obviousness.

5 **VIII. WHETHER CLAIM 15 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND BAUMEISTER.**

10 The examiner cites Baumeister as disclosing applicants' "bimetal heat sink for camera power supply temperature control." 09/27/99 Office Action, page 7, 13. But the Baumeister invention involves a microprocessor that "changes the imager temperature to the optimum value by means of a thermo-electric device attached to the solid state imager." Baumeister, col. 2, lines 19-23. Changing the imager temperature is not the same as changing the camera power supply temperature.

15 According to the Manual of Patent Examining Procedure, obviousness can be established only if each limitation of the claim is described by at least one of the prior-art references:

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the prior art cited by the examiner disclose the limitation of claim 15, the examiner has not established a *prima facie* case of obviousness.

5 **IX. WHETHER CLAIM 17 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND BALKWILL et al.**

10 The examiner cites Balkwill et al. as disclosing applicants' camera enclosure that "incorporates a one-way moisture passage plug with flexible and sealed passage for wires." 09/27/99 Office Action, pages 7, 13.

15 First of all, Balkwill et al. is not analogous art:

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). MPEP § 2141.01(a).

20 The subject matter of Balkwill et al. are electrical boxes for installation in the walls and ceilings of buildings. Balkwill et al.'s invention concerns an electrical box cover which prevents air, water, or moisture from passing through or around the electrical box when installed in a wall or ceiling. Applicants' invention is concerned with a means for allowing the one-way passage of moisture from a camera enclosure.

25 "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992). MPEP § 2141.01(a).

Allowing the one-way passage of moisture through or around an electrical box in a wall or ceiling of a building is not a problem encountered by building architects. Thus, the Balkwill et al. disclosure is not a reference that would have commended itself to an inventor's attention in 5 considering his problem, and the subject matter of Balkwill et al. is therefore not analogous art.

Even if Balkwill et al. is considered to be analogous art, it does not disclose applicants' claim-17 invention. Balkwill et al.'s invention is described as follows:

"The present invention provides a cover for an electrical box having a fastening flange extending outwardly therefrom to be fastened to a structural member in the wall or 10 ceiling. The cover extends completely around the side walls and the back wall of the box and has a flexible, thin-wall flange slanting away from the cover so that the peripheral edge of the flange can tightly contact the back surface of the wall or ceiling panel in which the box is mounted. In this manner, air and water or moisture are prevented from entering through the box itself and also around the box through the opening in the wall or 15 ceiling in which the box is mounted. Similarly, heated air is prevented from escaping."

Balkwill et al., col. 1, lines 28-40.

A "flexible, thin-wall flange slanting away from the cover so that the peripheral edge of the flange can tightly contact the back surface of the wall or ceiling panel" prevents air, water, and 20 moisture from either entering or leaving the box. It does not enable the flow of moisture in only one direction as called for by the claim.

According to the Manual of Patent Examining Procedure, obviousness can be established only if each limitation of the claim is described by at least one of the prior-art references:

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the prior art cited by the examiner disclose a means for restricting the flow of moisture in only one direction as called for by the claim 17, the examiner has not established a *prima facie* case of obviousness.

X. WHETHER CLAIM 20 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND TOVI.

Claim 20 derives its patentability as a result of its dependency from claim 1.

XI. WHETHER CLAIM 23 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND YANG.

5 Claim 23 claims "a mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adaptable to a rail road locomotive attachment."

Yang, a patent for a remote controlled surveillance train car, discloses "at least one surveying device on board the satellite car . . . , the surveying device may include a television camera" (Yang, col. 2, lines 27-63) but does not disclose "a mount assembly adaptable to 10 a railroad locomotive attachment."

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 15 1970)." MPEP § 2143.03.

Since none of the cited references disclose applicants' "a mount assembly adaptable to a railroad locomotive attachment", *prima facie* obviousness of claim 23 has not been established.

XII. WHETHER CLAIM 25 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF SCHNEE, SCHILLING et al., LUCAS et al., AND CONWAY et al.

5

Claim 25 derives its patentability as a result of its dependency from claim 1.

CONCLUSIONS

The issue presented by claim 1 has to do with a display device on which is displayed the
5 scene viewed by a video camera and camera controls that are used to control the pointing
direction of the video camera. The essence of claim 1 is that the camera controls and the display
device are packaged together in the same box.

In most surveillance situations, the viewer of the display device must be able to control
pointing of the video camera. Thus arises the basic requirement that the display device be
10 visually accessible to the viewer and the camera controls be physically accessible. However, it
does not follow that the camera controls and the display device must be packaged together in one
box. The examiner is unable to provide a reasonable rationale as to why a person skilled in the
art would read the referenced prior art and conclude that some benefit would accrue if the camera
controls and the display device were packaged together in the same box. Thus, the examiner has
15 failed to establish the obviousness of claim 1 and claims 2, 14, 18, 20, 24 and 25 which depend
from claim 1.

Each of the remaining claims contains one or more patentable features not disclosed in
the prior art. To establish *prima facie* obviousness of a claimed invention, all of the claim
limitations must be taught or suggested by the prior art, and this, the examiner has been unable to
20 demonstrate. Thus, the examiner has also failed to establish the obviousness of claims 3-13, 15-
17, 19, and 21-23.

APPENDIX

1. A mobile pan and tilt camera and display-control apparatus comprising:
 - 5 a fully rotatable camera attached to a mount assembly that is mounted to a vehicle for capturing mobile images;
 - 10 a display-control box having an image display screen and control buttons for controlling said camera and its movement, said display-control box being attached to an adjustable mount in said vehicle within an operator's view and reach;
 - 15 an image capture box for receiving said captured images.
 2. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said full rotation is achieved by mounting said camera to a tilting mechanism mounted on a panning mechanism.
 - 15 3. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said mount assembly incorporates a quick disconnect mechanism.
 4. A mobile pan and tilt camera and display-control apparatus as claimed in claim 3 further comprising a double locking mechanism on said mount assembly where one mechanism 20 is a security fastener.

5. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
further comprising a water seal attached to said [mount] tilting mechanism.

6. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
5 wherein said mount assembly is adapted to engage the roof-rack of a vehicle.

7. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
wherein said mount assembly is adapted to engage a THULE® brand roof rack system.

10 8. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
further comprising a ball-plunger for self-locking said mount assembly.

15 9. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
further comprising a security fastener as a secondary and operator activated mechanical locking
mechanism for said mount assembly.

20 10. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
further comprising a singular support for both said panning mechanism and said tilting
mechanism and separate drive gears and slip clutches for both said panning mechanism and said
tilting mechanism.

11. A mobile pan and tilt camera and display-control apparatus as claimed in claim 10

wherein said slip clutch comprises:

a rotationally free gear;

a support housing for gear;

a friction pad co-aligned to said gear between said gear and said support housing;

5 a wave washer to apply a pressure against said rotationally free gear and said support housing of sufficient force to enable a motor to drive said gear and said support housing to a point where said support housing stops rotating and said rotationally free gear breaks friction of said friction pad while said motor continues to drive without overheating.

10 12. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a camera enclosure with bezel opening that is threaded to accept optical filters and is sealed with an o-ring for moisture blocking.

15 13. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a Field of View (FOV) stabilized camera which provides an electronic compensation to overcome mechanical gear backlash and vibration.

20 14. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera may be mounted at any angle with respect to gravity.

15. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a bimetal heat sink for camera power supply temperature control.

16. A mobile pan and tilt camera and display-control apparatus as claimed in claim 12
wherein said camera enclosure is adapted to act as an additional heat sink.

5 17. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
wherein said camera enclosure incorporates a one-way moisture passage plug with flexible and
sealed passage for wires.

10 18. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
wherein said display and control system have a set of control buttons positioned to be operated
with a single hand.

15 19. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
wherein said display and control system have a viewing angle adjustment lever positioned to be
operated with said single hand.

20. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
further comprising an optically clear or tinted sphere enclosing said camera.

20 21. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
wherein said mount assembly mates to a YAKIMA^R brand roof rack system.

22. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles.

5 23. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adaptable to a rail road locomotive attachment.

24. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate for ship-board attachment.

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25. A process for viewing a scene with mobile pan or tilt camera of claim 1 comprising the steps of:

mounting said camera to a vehicle for capturing mobile images;

displaying said images on an image display screen;

15 controlling said camera position from within said vehicle;

capturing said images in an image capture box for storage and transmission of said captured mobile images; and

transmitting said captured mobile images by radio frequency transmission to a data storage server for further processing; and

20 providing said captured mobile images on internet server for official or consumer access.